



## *ETS Tolerance Tables*

**Table 1      Quarterly Totals from Hourly Records vs Reporting Period Totals in RT 301 and RT 307**

For each parameter (SO<sub>2</sub>, CO<sub>2</sub>, NO<sub>x</sub> Rate, NO<sub>x</sub> tons, and heat input) quarterly totals are calculated from the hourly records (RT 3xx) and should match the quarterly totals reported in RT 301 or RT 307 (Each hourly value is weighted either by the unit operating time or fuel usage time for the hour. All hourly values are summed and the result is then converted to tons, if necessary. The resulting total is compared to the total reported in RT 301 or RT 307). A **critical error** will be issued if a difference is detected which exceeds the specified tolerances.

Parameter	Tolerance	ETS Error Code
SO <sub>2</sub>	1.0 Ton	15
NO <sub>x</sub> Rate	0.01 lb/mmBtu	16
CO <sub>2</sub>	100.0 Tons and 2 %	17
Heat Input (RT 301)	1000.0 mmBtu and 1 %	18
Heat Input (RT 307)	1000.0 mmBtu and 1 %	233
NO <sub>x</sub>	1.0 Ton	231

**Table 2      Cumulative Hourly Totals vs Cumulative Annual or Ozone Season Totals Reported in RT 301 and RT 307**

For each parameter (SO<sub>2</sub>, CO<sub>2</sub>, NO<sub>x</sub> Rate, NO<sub>x</sub> tons, and heat input) cumulative annual totals are calculated from the hourly records (RT 3xx) and should match the cumulative annual totals reported in RT 301 or RT 307 (Each hourly value is weighted either by the unit operating time or fuel usage time for the hour. All hourly values are summed and the result is then converted to tons, if necessary. The resulting total is compared to the total reported in RT 301 or RT 307). A **critical error** will be issued if a difference is detected which exceeds the specified tolerances.

Parameter	Tolerance	ETS Error Code
SO <sub>2</sub>	1.0 Ton	24
NO <sub>x</sub> Rate	0.01 lb/mmBtu	24
CO <sub>2</sub>	100.0 Tons and 2 %	24
Heat Input	1000.0 mmBtu and 1 %	24
Ozone Season NO <sub>x</sub>	1.0 Ton	230
Ozone Season Heat Input	1000.0 mmBtu and 1 %	232

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**Table 3      Hourly Record Tolerances for Specific Parameters**

The following record types and associated fields each have an absolute tolerance. For each data element ETS recalculates the hourly data and compares the result to what is reported in the corresponding Record Type and Starting Column listed below. An **informational error** is issued if the difference exceeds the specified tolerance.

Data Element	RecordType:Starting Column	Tolerance	Units	ETS Error Code
Calibration Error Result	230:63	0.11	%	70
Hourly Heat Input	300:36	50.0	mmBtu/hr	158
Hourly Oil Heat Input	302:45	0.2	mmBtu/hr	159
Hourly Gas Heat Input	303:45	0.2	mmBtu/hr	160
Hourly SO <sub>2</sub> Mass Emissions	310:25	0.3	lb/hr	120
Hourly Oil SO <sub>2</sub> Mass Emissions	313:30	0.1	lb/hr	122
Hourly Gas SO <sub>2</sub> Mass Emissions	314:37	0.0001	lb/hr	125
Hourly NO <sub>x</sub> Emission Rate	320:36	0.01	lb/mmBtu	134
Hourly CO <sub>2</sub> Mass Emissions	330:18	0.2	tons/hr	144
Hourly NO <sub>x</sub> Mass Emissions	328:32	1.0 and 1 %	lb	312, 321, 322, 325, 330, 333, 338, 342, 347, 351, 356, 359, 364, 371, 379, 386, 392, 398, 404, 412, 415

**Table 4      Maximum Hourly Tolerances for Emission Record Values**

Another hourly based tolerance is the **maximum** hourly tolerance. For each hour of reported emissions and heat input data ETS recalculates the hourly data and compares the result to what is reported in the Record Type and Starting Column listed below. If the absolute difference between the ETS recalculated hourly emissions value and the reported emissions value exceeds the specified maximum tolerance, a **critical error** will be issued.

Parameter	Tolerance	Record Type: Starting Column	ETS Error Code
Heat Input (CEMs)	1000.0 mmBtu/hr	RT 300:36	290
Heat Input (oil)	500.0 mmBtu/hr	RT 302:45	293
Heat Input (gas)	500.0 mmBtu/hr	RT 303:45	294
SO <sub>2</sub> (CEMs)	200.0 lb/hr	RT 310:25	281
SO <sub>2</sub> (oil)	100.0 lb/hr	RT 313:30	291
SO <sub>2</sub> (gas)	1.0 lb/hr	RT 314:37	292
NO <sub>x</sub> Rate (CEMs)	0.3 lb/mmBtu	RT 320:36	289
NO <sub>x</sub> M (CEMs)	200.0 lb/hr	RT 328:32	282
CO <sub>2</sub> (CEMs)	100.0 ton/hr	RT 330:18	288

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**Table 5 Low Mass Emissions (LME) Unit Emission Limits\* (Revised August 1, 2002)**

The following table summarizes the emission thresholds for LME units for both ozone season and annual reporting periods. An **informational error** will be issued if the total calculated emissions from RT 360 fail to meet the specified limits.

Parameter	Program(s)	Limit	ETS Error Code
SO <sub>2</sub>	ARP-only	25 tons / year	603
NO <sub>x</sub>	ARP-only	< 100 tons / year	604
SO <sub>2</sub>	ARP + SUBH	25 tons / year	603
NO <sub>x</sub>	ARP + SUBH	< 100 tons / year	602
NO <sub>x</sub>	ARP + SUBH	50 tons / ozone season	601
NO <sub>x</sub>	SUBH-only	< 100 tons / year**	602
NO <sub>x</sub>	SUBH-only	50 tons / ozone season ***	601

\* See 75.19 (a)(1)(i)

\*\* If the source elects or is required to report data year-round

\*\*\* Applies to both year-round and ozone season-only reporters

**Table 6 Number of Recalculation Error Occurrences Limit**

If ETS detects one of the listed recalculation error codes and the number of occurrences is greater than 15, a separate **critical error** will be issued.

Parameter	Recalculation Error Code <sup>1</sup>	Limit (Occurrences)	ETS Error Code
SO <sub>2</sub> (CEMS) (lb/hr)	120	15	243
SO <sub>2</sub> (oil) (lb/hr)	122	15	249
NO <sub>x</sub> Rate (lb/mmBtu)	134	15	244
CO <sub>2</sub> (ton/hr)	144	15	245
Heat Input (mmBtu/hr)	158	15	246
NO <sub>x</sub> (lb/hr)	371, 379	15	247, 248

<sup>1</sup> See Table 3 for more information on these Recalculation Error Codes.

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**Table 7      Quarterly vs Cumulative Totals in RT 301 (first quarter only)**

An **informational error** is issued from ETS if the quarterly total in RT 301 is not equal to the cumulative total in RT 301 for the first quarterly report of the calendar year.

<b>Parameter</b>	<b>Tolerance</b>	<b>ETS Error Code</b>
SO <sub>2</sub> (tons)	quarterly total must equal cumulative total in RT 301	96
NO <sub>x</sub> Rate (lb/mmBtu)	quarterly total must equal cumulative total in RT 301	97
CO <sub>2</sub> (tons)	quarterly total must equal cumulative total in RT 301	98